AN EXTENTION OF THE SELF-ESTEEM EXPLANATION FOR
INFORMATION SEARCH AND POLICY CONSISTENCY.

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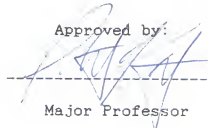
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INTRODUCTION

Understanding the set of psychological variables
that affect the consistency of managerial practices
has been an issue addressed in both experimental and
field studies. The predominant, but not completely
answered, question put forth by these studies is:
What are the psychological individual difference
variables that affect information search and
consistency in the policy decision-making process?
Understanding these intervening individual difference
variables would allow for a systematic evaluation of
an individual's decision processes as well as
predictions for future situations based on the
individual's psychological profile. Considering the
dynamic nature of managerial positions, such
prediction could allow for more valid selection
procedures, and managerial training programs that
expand managers' policy practices beyond their
personality-based strategies.

In the chronological sequence of the policy
decision-making process, four basic components can be
specified. First, information is gathered in an
attempt to understand the potential effects of the

policy and predict its ultimate success. Second, the policy is selected. Third, the policy selected in the second step is implemented. Finally, this policy's implementation will yield some effect producing feedback, either positive or negative, for the policy maker. It is in this step that policy effectiveness may be reduced if the policy maker is not flexible in considering possible alternatives or revisions to the already implemented policy.

An argument against rigid consistency in policy decisions was first proposed by Campbell (1969) in his discussion of "reforms as experiments." Campbell contended that we should be ready for an experimental approach to social reform, "an approach in which we try new programs, in which we learn whether or not these programs are effective, and in which we retain, imitate, modify, or discard on the basis of apparent effectiveness on the multiple imperfect criteria available" (Campbell, 1969; p. 1). The political program evaluation paradigm that Campbell proposed can easily be reconceptualized as a formalized policy evaluation program implemented at the managerial level of an organization. As Campbell (1977) noted, the advantages of such a system appear so obvious that one

might wonder why it is so infrequently used. Perhaps
an important drawback to such a system is the
necessity for flexibility on the part of those
responsible for setting policies.

A major contribution to the area of managerial
flexibility, and more specifically to the
self-justification process, has come from the work of
Staw and his associates (i.e. Fox & Staw, 1979; Staw,
1981; Staw, 1976; Staw, 1976; Staw & Fox, 1977; and
Staw & Ross, 1978). Staw (1976) described a somewhat
counterintuitive situation, in which after a person's
behavior has led to negative consequences, he or she
cognitively distorts the consequences to more
positively valent outcomes, rather than changing his
or her behavior. Consider this situation in the
context of an investment decision. Staw contended
that a poor or unsuccessful decision will produce a
negative cyclical process whereby the individual will
increase commitment in the face of negative feedback
(e.g devaluation of a newly purchased stock) in order
to justify previous behavior. Unfortunately, this
increase in commitment to the "failing" decision can
often lead to further negative consequences.

This self-justification process, whereby an individual seeks to rationalize his or her previous behavior, or to psychologically defend himself or herself against adverse consequences, has most frequently been tested in the forced-compliance paradigm (Festinger & Carlsmith, 1959). Typically, an individual is induced to perform an unpleasant or dissatisfying act such as lying to a fellow subject about the nature of a task, or writing an essay against one's own position. Negative consequences result from carrying out each of these counterattitudinal acts when no external rewards are present to compensate for the dissatisfying task. However, since it is difficult for the subject in this forced compliance situation to ignore the consequences of his or her acts, the individual is expected to bias his or her attitude on the experimental task so as to cognitively reduce any negative outcomes resulting from this behavior (Staw, 1976). More specifically, it is predicted that the individual will justify his or her previous behavior through the perceptual biasing of behavioral outcomes.

Empirical research assessing the necessary components of this forced compliance paradigm has

suggested that two basic preconditions are necessary for the biasing of outcomes. First, the individual must be committed to a decision that is irrevocable or at least not easily changed (Brehm & Cohen, 1962). Second, and perhaps even more important, the individual must feel personally responsible for the negative consequences of the previous behavior (Carlsmith & Freedman, 1968). This responsibility comes from some degree of perceived choice in the initial decision, as well as anticipation of potential negative consequences from the decision. In the forced compliance paradigm both commitment and responsibility act as intervening variables that affect the salience and magnitude of perceptual and behavioral shifts.

Staw (1976) empirically assessed this self-justification process in the form of escalation of commitment to a previously chosen, failing course of action. Two-hundred and forty undergraduate business students were asked to read a case study (financial decision case) and act on the information as a financial decision maker. In short, the participants were asked to decide how much money should be allocated to an extended research and

development program. Variables manipulated involved consequences or outcomes (positive and negative) and personal responsibility (high and low). This formed a 2 x 2 factorial design in which personal responsibility and decision consequences were the manipulated independent variables. The most interesting result, confirming the escalation of commitment hypothesis, was the significant interaction of personal responsibility and decision consequence. The amount invested in the previously chosen alternative was greater in the high personal responsibility-negative consequences condition than in any of the other experimental conditions. Staw contended, from the results of the study, that individuals invested a substantially greater amount of resources when they were personally responsible for the negative consequences.

In an attempt to further specify the components underlying this escalation of commitment phenomenon, Staw and Fox (1977) conducted a study tapping some variables hypothesized to be relevant to the decision context. This study added to Staw's (1976) previous work by addressing three new questions. First, it asked whether the escalation of commitment is a

transitory phenomenon, or if it is capable of persisting over a period of time. Second, it asked if commitment to a losing alternative can be built up over time even though a decision maker may not have been personally responsible for the original course of action which led to adverse consequences. Third, it asked whether the efficacy of resources committed to a course of action will affect the process of escalation or withdrawal. That is, does it make a difference whether it is highly probable that the commitment of new resources will turn an unfavorable situation around (i.e. high efficacy) or if it is highly uncertain that new resources will improve investment returns (i.e. low efficacy)? This led to a 2 x 2 x 3 factorial design with personal responsibility, efficacy of resources, and time as independent variables, respectively. The experimental scenario was similar to that in the Staw (1976) study, where subjects played the role of a corporate executive making decisions about the allocation of research and development funds, with the addition of a three-incident temporal factor.

The results revealed a significant decline in commitment over time for high-responsibility subjects,

while low-responsibility subjects maintained or
slightly increased their commitment. A similar trend
was found for the efficacy manipulation. Apparently,
after receiving negative feedback on the initial
investment, a statistically significant number of
subjects greatly escalated the commitment of resources
to the previously chosen course of action. However,
upon receiving additional negative consequences,
subjects tended to withhold or reduce the magnitude of
new investment. Finally, after receiving further
negative results, investments increased again. The
authors contended that this increase in the allocation
of resources partially supported the
self-justification explanation, emphasizing the
importance of the slight increase in allocation of
resources at the third temporal incident (which
incidentally, followed a decrease after the second
temporal incident). Although the self-justification
explanation accounted for the escalation of commitment
to a failing policy if efficacy and responsibility are
high, it did not completely explain the willingness of
subjects (in the face of continued negative feedback)
to actively attempt to probe and learn from the system
over time, thereby reducing commitment to the initial

decision. This led to a multitheoretical approach to the escalation of commitment.

In a study designed to tap some of the variables relevant to policy situations and to compare specific predictions derived from six psychological theories, Staw and Ross (1978) added a feedback manipulation and investigated how individuals process information following negative versus positive feedback. Among the theories tested in this decision context were reinforcement, expectancy, self-justification, reactance, learned helplessness, and invulnerability (for a complete explanation, see Staw & Ross 1978). In this study, previous success/failure and causal information about setback (or policy failure) were both experimentally varied.

Results showed that subjects invested more resources in a course of action when information pointed to an exogenous rather than endogenous cause of setback, and this tendency was more pronounced when subjects had previously been given failure rather than success feedback. These results were interpreted as showing that individuals will reduce their commitment to a course of action where prospects for future gain are bleak, but that they will continue to invest large

amounts of resources when provided an external cause
for failure and some hope of recouping their losses
(Staw, 1981). The results and corresponding
interpretation of this study did not fully support the
previous self-justification explanation for the
escalation of commitment to a failing policy.
Interestingly, the reactance explanation, which does
not specify the direction of commitment, but states
that in the face of failure the individual will become
motivationally aroused to re-establish his or her
competence (Brehm, 1968), appeared to have the
greatest predictive value of all the models tested.

　　Brehm's (1968) theory of psychological reactance
was originally formulated to account for individual
reactions to a restriction of freedom. However, it
has been extended to individual reactions to the
restriction of outcomes (Wortman & Brehm, 1975).
According to reactance theory, when individuals do not
attain the outcomes they desire, they become motivated
to take action to improve their fates. Therefore,
this theory asserts that the individual will act
rationally, intensifying information search and
cognitive acuity to attain greater future outcomes.

Staw and his associates had previously emphasized
the role of internal justification as the underlying
process responsible for the "knee deep in the big
muddy" phenomenon. However, Fox and Staw (1979)
demonstrated the role of external justification in
this decision process. In the "knee deep in the big
muddy" scenario, administrators who are vulnerable to
job loss or who implement a policy they know will be
unpopular would be especially motivated to protect
themselves against failure. This scenario should lead
to a strong need for external (as opposed to internal)
justification. The hypothesized outcome of this
external justification for a failing policy would be
the same as that for internal justification --
escalation of commitment of resources. As expected,
through the use of a simulation manipulating job
security and policy resistance, results showed that
when a course of action led to negative consequences,
the simulated administrators who were both insecure in
their jobs and who faced stiff policy resistance were
most likely to escalate their commitment of resources
and become locked into the losing course of action
(Fox & Staw, 1979).

Beyond the psychological justification processes that affect the policy decision-making practices observed in organizations and experiments, evidence for norms of consistency provide another explanation for the escalation of commitment to failing policies. It has been contended (Knight, 1984; Staw & Ross, 1980) that society might perceive administrators who are consistent in their actions as being better leaders than those who switch from one line of behavior to another. To test this empirically, Staw and Ross (1980) conducted an experiment on the reactions of individuals to selected forms of administrative behavior. Subjects were both practicing managers and undergraduates in business and psychology. Each subject read a case description of an administrator's behavior. Manipulated in the case descriptions were consistency versus experimentation in the administrator's course of action, as well as the ultimate success or failure of the policy. Results showed that administrators were rated highest when they followed a consistent course of action and were ultimately successful. Also, there was a significant interaction of consistency and success such that the consistent-successful administrator was

rated more highly than would be predicted by the two main effects of these variables.

The authors (Staw & Ross, 1980) contended that this supported their predicted "hero effect," where the administrator who remained committed through apparent strategic failures was expected to obtain eventual success. Furthermore, it was suggested that not only is consistency in action perceived to be part of effective leadership, but that this perception may be acquired through socialization in business and government roles (Staw, 1981).

To test this "heroism effect" for the consistent manager, Knight (1984) conducted a study testing the effects of heroism against an implicit theory of competent management. Knight noted Campbell's (1967, 1969, 1977) work suggesting that experimenting management should lead to a system in which ineffective solutions to problems are weeded out while effective solutions are expanded and utilized. In Knight's (1984) study 195 undergraduate psychology students read a case study describing a manager who was either experimenting or consistent, and either immediately successful or successful only after initial failure. The dependent measure was very

similar to that used in the Staw and Ross (1980) study, 7-point Likert items for rating the performance or competence of the manager in the scenario. The items were summed to form a single global rating.

The results supported the implicit theory of competent management; the consistent manager, whose first policies were effective, was rated significantly higher than the ultimately successful-experimenting manager (i.e. Staw and Ross' "hero") whose first policy failed. Also, contrary to Staw and Ross' (1980) findings, the immediately successful experimenting manager was rated significantly higher than all other managers. From these results, Knight (1984) concluded that there is not a general bias against experimentation in favor of consistency, and reactions to managers are based more upon evidence of competence that upon experimenting and consistency per se.

SELF-ESTEEM

While a number of factors related to commitment and experimenting have been studied, relatively little is known about the relationship between individual difference variables and these behaviors (Knight,

1980). Knowledge about the relationship between specific individual difference variables (e.g. self-esteem) and commitment versus experimenting in management practices would be useful for predicting individual effectiveness in various task situations. Along with "intelligence," "self-esteem" may be the attribute most commonly considered in both professional and lay discussions of personality and social functioning (Wells & Marwell, 1976). Its effects have been empirically assessed in a number of content areas, including conformity (Gergen & Bauer, 1976), dishonest behavior (Aronson & Mettee, 1968), competitive behavior (Graf & Hearne, 1970), interpersonal interaction (Lenard, 1973), task achievement (Korman, 1967), and information search and task success (Weiss & Knight, 1980).

Rosenberg (1965) viewed self-esteem as a kind of evaluative attitude. According to Rosenberg, all self-attitudes have an evaluative dimension which produces a "self-estimation" of the attitude object— "how the individual actually rates himself with regard to a particular characteristic" (Rosenberg, 1965, p. 246). All self-estimates are not equally important, but vary according to the self-value of the attitude-

"how much he cares about the quality" (Rosenberg,
1965, p. 246). With each self-estimate weighted by
its corresponding self-value, the overall self-esteem
of the individual represents some kind of
psychological summation of these specific weighted
self-evaluatlions. This weighted summation is
conceptualized as chronic self-esteem, an enduring and
stable self-evaluation.

In organizational behavior research, low
self-esteem has generally been considered
dysfunctional (Dipboye, 1978; Korman, 1966). Gefland
(1962) defined self-esteem as a person's
characteristic evaluation of himself or herself, and
what he or she thinks of himself or herself as an
individual. Thus, low self-esteem is characterized
by a sense of personal inadequacy and a historical
inability to achieve need satisfaction. Applying this
definition, Korman (1966) contended that
low-self-esteem people should be less likely to choose
occupations that they perceive to be most likely to
fulfill their specific needs, labeling them as
"nonself-appropriate." As part of his
self-consistency theory, Korman (1970) went on to
predict that people are motivated to maintain

consistency with the social, task, and chronic
components of self-esteem. Therefore, individuals low
in self-esteem should typically behave in ways that
are consistent with their low self-image, as opposed
to high-self-esteem individuals who perceive
themselves as successful and behave accordingly.
Dipboye (1977) contended that the low self-esteem
person will attempt to maximize psychological success
and minimize future failure through a defensive lack
of effort. Furthermore, he suggested that these
attempts might be self-defeating. Korman (1974)
stated that his theory would predict that only high
self-esteem individuals would use their individual
motives and their desires to satisfy them as guides
and cues to their behavior, since motive satisfaction
would be consistent only with high self-esteem and not
with low. According to this theoretical perspective,
high self-esteem should always be functional and,
conversely, low self-esteem always dysfunctional.

However, more recent empirical research efforts
have yielded results suggesting that this simple
dichotomy may not generalize to all performance-
oriented situations. Weiss (1977, 1978) has suggested
that differences in self-esteem will influence the

extent of information search. Individuals high in
self-esteem generally have more confidence in their
initial approaches to problems, and will therefore
seek less information before offering solutions and
making decisions. Weiss and Knight (1980) found that
the self-esteem of subjects working on a
problem-solving task was negatively correlated with
both the extent of their information search and their
ultimate task success. They concluded that
self-esteem may be related to individual task
efficiency, with low-self-esteem people, who gather
more information about possible solutions before
implementing them, performing better on tasks where
the one best solution must be identified, and
high-self-esteem people, who search for less
information before trying a solution, performing
better on tasks with obvious solutions, time
constraints, or where information search is costly
(Knight, 1980).

This theoretical conceptualization has much in
common with the experimenting management approach
described by Campbell (1977), where experimenting
managers gather more information about their policies
utilizing a quasi-formal policy evaluation. Weiss and

Knight's (1980) discussion predicts that experimenting managers may have lower self-esteem than consistent managers, or conversely, low self-esteem managers should display higher levels of experimenting.

As an extension of this theoretical paradigm, Knight and Nadel (1986) conducted research utilizing a computer simulation to study the relationship between self-esteem and the information search and policy consistency of subjects. Based on the results of prior research findings (Weiss & Knight, 1980), it was predicted that there would be a negative relationship between self-esteem and both experimenting and information search. In the scenario subjects were told that they were the manager of a large manufacturing corporation. Their task was to reduce an arbitrary defect rate described in the scenario by implementing any of three possible policies. A list of costs for policy implementation and an operating budget were given to the subjects. Two measures each of consistency (vs. experimenting) and information search were derived. The information search measures were the number of requests for performance feedback as well as requests for the operating budget balance. The consistency measures were the number of weeks (in

the scenario) the subject waited before the initial
policy was abandoned in favor of one of the
alternatives, and the number of times the subject
changed policies. Self-esteem was measured using the
Rosenberg Self-Esteem Inventory (Rosenberg, 1965). As
predicted, there were significant negative
relationships between self-esteem and both
experimenting (number of policy changes) and
information search (requests for performance feedback
and other information).

OTHER THEORETICAL VARIABLES

In an attempt to further specify the relationship
between self-esteem and information search and
consistency in the policy decision making process, the
present research expanded upon the existing
literature. Staw (1976) found that commitment to
failing policies was greater than commitment to
successful policies, and that commitment to a failing
policy was greatest when subjects were personally
responsible for the policy. However, Staw's
experiment dichotomized responsibility, splitting
subjects into high- and low-responsibility conditions.
Beyond this, little has been done to understand other

variables that might moderate the relationship between
self-esteem and both information search and
consistency in the policy-making context. It appears
that the relationship of self-esteem and information
search and consistency has been empirically confirmed
(Knight & Nadel, 1986; Weiss & Knight, 1980); however,
efforts need to be directed toward gaining a better
understanding of the theoretically related variables.

Four hypothetically related mediator variables,
commitment to, responsibility for, confidence in, and
attribution (internal vs. external) for success or
failure for the policy or policies chosen, were
included in the study. As outlined in the hypotheses,
it was expected that each of these variables would be
differentially related to self-esteem.

HYPOTHESES

Based upon the findings discussed (Knight &
Nadel, 1986; Weiss & Knight, 1980), it was
hypothesized that self-esteem would be negatively
correlated with the frequency of information search
concerning additional policy information and policy
performance, negatively correlated with the frequency
of policy change, and positively correlated with the

length of time the initial policy is allowed to
operate.

As in previous research, it was expected that
self-esteem would be positively related to commitment,
such that high-self-esteem subjects would remain more
committed in the face of failing feedback than
subjects lower in self-esteem. Although these effects
have been shown behaviorally (Knight & Nadel, 1986;
Weiss & Knight, 1980), with commitment being inferred
from consistency in policy selection, the present
study attempted to obtain a more direct measure of the
relationship.

Confidence was hypothesized to be similarly
related to self-esteem as commitment. Weiss and
Knight (1980) suggested that individuals high in
self-esteem generally have more confidence in their
initial approaches to problems. Subjects high in
self-esteem were expected to remain highly confident
through the course of negative policy feedback, while
those with lower levels of self-esteem were expected
to feel progressively less confident throughout the
simulation, resulting in increased experimenting
behavior.

The relationship of self-esteem to responsibility for policy selection was hypothesized to be more complex. High-self-esteem subjects were expected to initially perceive high personal responsibility for their positive policy outcomes; however, these perceptions of responsibility were expected to reduce slightly in the face of continued failing feedback. This effect was expected to be reflected behaviorally, following Staw's (1976) logic that high personal responsibility should lead to greater investment of resources. Furthermore, when the continued allocation of resources to a failing policy did not rectify the situation, the self-justification process should shift responsibility to external channels. Low-self-esteem subjects, maintaining consistency with their self-image (Korman, 1970), were expected to perceive increasing personal responsibility for their negative situation as they searched for information that could lead to success.

Finally, it was hypothesized that high self-esteem subjects would initially attribute their performance to internal factors. High self-esteem individuals typically attribute their success to internal factors while individuals lower in

self-esteem are generally less likely to internalize
their success (Wells & Marwell, 1976).
High-self-esteem subjects were expected to remain
fairly consistent in their internal attributions.
However, with the continued negative feedback over the
course of the second simulation, subjects low in
self-esteem were expected to internalize the
attributions of failure, attempting to rectify their
situation and find the best solution to the problem.

In summary, it was expected that differences in
self-esteem would lead to differential psychological
reactions to the negative policy feedback received in
the second simulation. More specifically, these
differential psychological reactions were expected to
produce behavioral differences reflected in policy
consistency and information search.

METHOD   .

Subjects

Subjects were 98 undergraduate students (41
female, 57 male) enrolled in General Psychology at
Kansas State University. Subjects participated in the
study in partial fulfillment of a course requirement.

Procedure Overview

Subjects were run individually, completing a two-
part management computer simulation run on a
microcomputer. After filling out a self-esteem
measure, each subject worked on the first management
simulation. The simulation presented a problem that
the subject, playing the role of a manager, was to
solve, given three policy options recommened by a
consultant. The subject was instructed to select and
implement a policy. Upon receiving policy feedback,
the subject was given the option to either "stick
with" or change his or her selected policy. In the
first simulation, the subject was given success
feedback regardless of policy(s) selected. The
subject then filled out two scales; one tapping
task-specific self-esteem, and the other assessing
commitment to, confidence in, responsibility for, and

internal versus external attribution for the outcomes
of the implemented policy(s). Once these scales were
completed, the subject returned to the computer for
the second part of the management simulation. This
procedure was identical to the first simulation,
except the subject received feedback indicating the
failure of his or her selected policies. At the
completion of the second simulation, the subject
filled out a second set of scales identical to those
given at the completion of the first simulation. The
subject was then fully debriefed.

Procedure

All subjects were given a chronic self-esteem
scale at the beginning of the experiment, the
Rosenberg Self-Esteem Inventory (Rosenberg, 1965; see
Appendix A). Subjects were run individually. After
completing the chronic self-esteem scale, subjects
began the management simulation, run on a
microcomputer. The simulation presented a problem
that the subject, playing the role of a manager, was
to attempt to solve. The simulation consisted of two
parts, with the subject attempting to consecutively
solve the problems of two closely similar companies.

In each part of the simulation the subject was told
that he or she was to play the role of a manager of a
large manufacturing corporation that had been losing
profits due to low employee motivation and consequent
low production. Three policy options, supposedly
recommended by industrial psychologists, were
presented to the acting manager. The subjects were
instructed to select one of these policies in an
attempt to raise employee motivation and production.
A simulated time frame of 18 "weeks" was given for the
subjects to solve the problem; they received feedback
"every two weeks" on how they were doing. This
provided a total of 9 chances to either "stick with"
or change policies in hope of solving the problem and
bringing production back up to an acceptable level of
10 units per hour per employee.

Each subject was given an operating budget of
$10,000 at the beginning of the simulation. Cost and
pay-off contingencies for changing policies, inquiring
about operating budget balance, and increasing
production level (above 10 units/hour), as well as
receiving additional information on each of the
policies, were also given to the subjects. Subjects
were told that the simulation would be successfully

terminated if they had maintained a production level
of 10 units/hour or above for two consecutive feedback
periods (4 weeks). For the complete simulation
instructions, see Appendix B.

Once the instructions had been given to the
subjects, they began the first part of the simulation.
In this initial task all subjects were told that they
had successfully solved the motivation problem during
the first two feedback periods by restoring the
production level to 10 units/hour. This was the
task-specific self-esteem manipulation. At this point
the subjects were asked to fill out a task-specific
(versus chronic) self-esteem scale, as well as graphic
rating scales measuring levels of commitment to,
responsibility for, confidence in, and internal vs.
external attribution for outcomes of the implemented
policy. See appendixes C and D, respectively, for
these scales.

Once these two scales were completed, the subject
began the second part of the management simulation.
This second simulation differed from the first in that
the subject received failure feedback regardless of
the type or number of policies he or she implemented
over the course of the 18 weeks. At the completion of

the managerial simulation, each subject filled out a second set of graphic rating scales measuring levels of commitment, responsibility, confidence, and attribution for failure, and a task-specific self-esteem scale. Finally, subjects were fully debriefed.

Self-Esteem

Self-esteem was measured by two different scales, one for chronic self-esteem and one for task-specific or state self-esteem (used twice, once after each simulation). Chronic self-esteem was measured using the Rosenberg Self-Esteem Inventory (Rosenberg, 1965). This scale has 10 four-point Likert items on which subjects indicate the extent of their agreement with statements about their own competence and worth. Knight and Nadel (1986), from two separate samples, reported coefficient alpha reliabilities of .82 and .83, with mean scores around 32.2 (32.19 & 32.11) and standard deviations of 4.08 and 4.40. The mean of the Rosenberg Self-esteem Inventory in the present sample was 33.4, and the standard deviation was 3.50. The coefficient alpha reliability was .78.

The task-specific self-esteem scale was in
graphic rating scale format. Subjects responded to
statements concerning their competence and ability on
the task simulated in the computer scenario (see
Appendix C for the scale). The mean, standard
deviation, and coefficient alpha reliability for the
first administration of the scale were 21.38., 4.29,
and .79, respectively. The mean, standard deviation,
and coefficient alpha for the second administration
(after the failing policy feedback) were 19.40, 4.80,
and .83, respectively.

Other Theoretically Related Variables

Other variables assessed in this study included
commitment to, responsibility for, confidence in, and
attributions for the policy decisions made during the
simulation. Each of these variables was measured
using a graphic rating scale similar to that used for
the task-specific self-esteem scale. Subjects
responded to statements, indicating their degree of
agreement (see Appendix D for scale). The 14-item
scale, administered twice (once after each
simulation), was composed of items that tapped each of
the four variables. Both confidence and attribution

were measured with the sum of 4 items, while commitment and responsibility were each measured with the sum of 3 items. The means, standard deviations and coefficient alpha reliabilities for all mediator variables (time 1 and time 2) are presented in Table 1.

TABLE 1

Means, Standard Deviations, and Coefficient Alpha

Reliabilities.

	Mean	S.D.	Coefficient Alpha

Criteria

1. Policy Change	1.47	1.42	
2. Request Balance	1.44	1.56	
3. Additional Info.	1.66	1.04	
4. Policy Length	10.28	5.77	
Scale Measures			
5. Self-Esteem	33.40	3.50	.782
6. Task S.E. (1)	21.38	4.29	.798
7. Task S.E. (2)	19.40	4.80	.834
8. Commitment (1)	14.06	3.07	.745
9. Commitment (2)	12.80	3.30	.781
10. Confidence (1)	18.30	3.68	.789
11. Confidence (2)	16.08	4.17	.821
12. Responsibility (1)	12.98	2.84	.480
13. Responsibility (2)	12.26	2.84	.642
14. Attribution (1)	17.76	3.48	.454
15. Attribution (2)	14.29	4.05	.643

Criteria

Two measures of information search and policy
consistency were utilized. The first information
search measure was the number of times the subjects
requested the operating budget balance. Although the
subjects could have figured out their operating budget
themselves, previous research (Knight & Nadel, 1986)
suggests that they do not. The second, and perhaps
more relevant, measure of information search was the
number of requests for additional information about
each of the policies. Obtaining additional information
about a failing policy should enhance one's ability to
determine the optimal solution for rectifying the
policy situation. The consistency measures were the
number of weeks before the initial policy was abandoned
in favor of one of the alternatives, and the number of
times the subject changed policies. The inverse
relationship between length of first policy and
frequency of policy change led to the differential
hypotheses of these variables as correlated with
self-esteem.

RESULTS

It was predicted that self-esteem would be negatively correlated with the frequency of information search concerning additional policy information and policy performance, negatively correlated with the frequency of policy change, and positively correlated with the length of time the initial policy was allowed to operate.

In summary, it was expected that differences in self-esteem would lead to differential psychological reactions to the negative policy feedback received in the second simulation. More specifically, these differential psychological reactions were expected to produce behavioral differences reflected in policy consistency and information search.

In order to interpret the self-esteem correlations reported below, it is necessary to demonstrate that initial policy choice was unrelated to either self-esteem or subject sex. If high- and low-self-esteem subjects (or male and female subjects) tended to select different initial policies, it is possible that those differences could account for

subsequent differences in consistency and search
behaviors (Knight & Nadel, 1986).   A multiple
discriminant function analysis, predicting initial
policy choice from self-esteem and subject sex, was
conducted and showed that neither self-esteem nor sex
predicted initial policy choice, Wilk's Lambda = .708,
X^2 (2, N=98) = 2.066, p>.35.

Zero-order correlations among the criteria,
subject sex, and all of the proposed mediator variables
(time 1 & 2) are presented in Table 2.   The marginally
significant positive correlation between chronic
self-esteem and initial policy length (p. <.10)
suggests that subjects high in self-esteem did hold
onto their initial policy longer than those lower in
self-esteem.   All other correlations involving chronic
self-esteem and the behavioral measures were not
statistically significant, thus failing to support the
hypothesis.   The correlation between subject sex (coded
1=female, 2=male) with number of balance requests was
marginally significant (p. <.10), with women requesting
operating budget balances more often than men.

TABLE 2

Correlations of all Variables.

	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Self-Esteem	.07	.15*	-.10		.34***	.43***	.01	.31***	.09	.24**	-.01	.14	.13	.13	.04
2. Add. Info.		.54***	-.12	.16*	-.18*	-.11	.04	-.06	.12	-.04	.28***	.04	.04		.00
3. Balance Req.			-.17*	.20**	-.20**	-.24***	-.04	-.11	-.03	-.12	.03	-.01	-.05		-.16*
4. Policy Length				-.72***	-.05	.07	-.04	.43***	-.28***	-.02	-.12	.03	-.01	-.17*	.12
5. Policy Change					.07	-.02	-.08	-.36***	.07	-.28***	.12	-.04	.09	.22**	-.11
6. Task Self-Esteem (1)						.73***	.43***	.43***	.53***	.29***	.26***	.10	.13	.09	.11
7. Task Self-Esteem (2)							.18	.28***	.35***	.25***	-.02	-.06	.13	.02	.16*
8. Commitment (1)								.37***	.32***	.31***	.17*	.16*	.11	.06	.02
9. Commitment (2)									.68***	.31***	.4***	.21**	.28***	.06	.03
10. Confidence (1)										.67***	.34***	.41***	.26***	.10	.03
11. Confidence (2)											.3***	.19	.31***	.09	.03
12. Responsibility (1)												.49***	.28***	.08	.05
13. Responsibility (2)													.37***	.39***	.12
14. Attribution (1)														.50***	.00
15. Attribution (2)															-.03
16. Sex															

* = p. < .10.   ** = p. < .05   *** = p. < .01

Note that task-specific self-esteem showed significant correlations with the information search measures, additional information (p. <.1Ø) and balance requests (p. <.Ø5 & p. <.Ø1). However, no significant correlations were found for task-specific self-esteem with the policy consistency measures, policy length and policy change.

It was expected that self-esteem would be positively related to commitment, such that high-self-esteem subjects would remain more committed in the face of failing feedback than subjects lower in self-esteem. Confidence was also predicted to be positively related to self-esteem. Subjects high in self-esteem were expected to remain highly confident through the course of negative policy feedback, while those with lower levels of self-esteem were expected to feel less confident, resulting in experimenting behavior.

The correlations show support, at time 2, for the relationships between chronic self-esteem and both commitment (r = .31, p.<.Ø1) and confidence (r = .24, p.<.Ø5). As predicted, high-self-esteem subjects

remained more committed to, and confident in, their
policy decision in the face of failing feedback.

The relationship of self-esteem to responsibility
for policy selection was hypothesized to be more
complex. High-self-esteem subjects were expected to
initially perceive high personal responsibility for
their policy outcomes; however, these perceptions of
responsibility were expected to eventually reduce in
the face of continued failing feedback. Low-self-
esteem subjects, maintaining consistency with their
self-image (Korman, 1970), were expected to perceive
increasing personal responsibility for their negative
situation as they searched for information that could
lead to success.

Time 1 versus time 2 $\underline{t}$ tests, dichotomizing
self-esteem, were used to assess differential changes
in responsibility over time. As predicted, with the
repeated failure feedback received in the second
simulation, the high-self-esteem group showed a
significant decrease in responsibility over time
($\underline{t}=2.05$, $p.<.05$). Although the low-self-esteem group
did not show the expected increase in responsibility at
time 2, their decrease was not statistically

significant ($\underline{t}$=1.54, N.S.). This suggests that the low-self-esteem subjects, relative to their higher-self-esteem counterparts, did maintain greater responsibility for their failing policies.
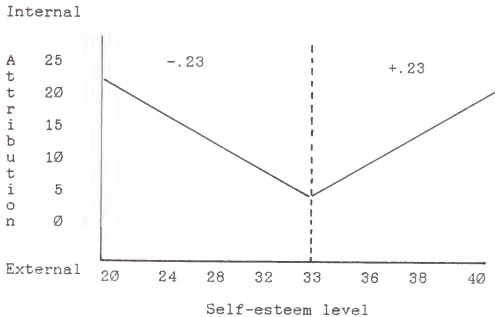
Finally, high-self-esteem subjects were expected to remain fairly consistent in their internal attributions. However, with the continued negative feedback over the course of the second simulation, subjects low in self-esteem were expected to shift from external to internal attributions for their failure.

Although no significant correlations between chronic self-esteem and attribution were found at time 1 or 2 for the entire sample, the differential pattern of correlations for the dichotomized groups (high- vs. low-self-esteem) suggested a partial confirmation of this hypothesis. It was expected that high-self-esteem subjects would remain fairly consistent in their attributions across the positive and negative feedback, while the low-self-esteem subjects would internalize their failure. After the success feedback received in the first simulation, no significant correlations were found between chronic self-esteem and attribution for either the high- or low-self-esteem subjects (.015 and

.108, respectively). However, after the second

simulation, where the subjects received only failure

feedback, the correlation between self-esteem and

attribution was .236 (p. <.10), for high-self-esteem

subjects (34 and above), and -.230 (p. <.10) for the

low-self-esteem subjects (33 and below). See Figure 1

for graph of dichotomized attribution correlations.

FIGURE 1

Graph of dichotomized correlations for attribution
variable.

Internal

A	25	-.23		+.23
t				
t	20			
r				
i	15			
b				
u	10			
t				
i	5			
o				
n	0			

External   20   24   28   32   33   36   38   40

Self-esteem level

Although neither of these correlations reached traditional significance levels, they do suggest an interesting attributional pattern. As predicted, it appears that the lowest-self-esteem individuals did, relative to those with more moderate self-esteem, shift toward internal attributions as a consequence of the second simulation's failure feedback. However, the marginally significant positive correlation found for the high-self-esteem subjects indicates that those very high in chronic self-esteem also internalized the failure feedback. It is suggested that individuals who are very high in self-esteem could possibly maintain internal attributions for all behavioral outcomes, both positive or negative, even if they are non-self-appropriate.

Note that the task-specific self-esteem showed similar relationships as chronic self-esteem with the mediator variables. As with chronic self-esteem, task-specific self-esteem was significantly correlated with commitment and attribution (p. <.01). Task-specific self-esteem was also significantly correlated with responsibility at time 1 (p. <.01). This suggests that the task-specific self-esteem scale might have been

more sensitive to subjects' levels of commitment, confidence, and responsibility for their selected policies.

The entire sample showed a statistically significant decrease on all of the proposed mediator variables (as well at the task specific self-esteem measures) from time 1 to time 2, as revealed by significant t-tests. See Table 3 for the source table. The significant decreases on these variables support the effectiveness of the feedback manipulation. More specifically, the failure feedback received in the second management simulation effectively reduced subjects' levels of task self-esteem, commitment, confidence, and responsibility, as well as shifting attributions toward external channels.

TABLE 3

Planned Comparison t-Tests for all Intervening
Variables.

(Time 1 vs. Time 2).

	Mean	S.D.	t	p. <
1. Task Self-Esteem (1)	21.38	4.29		
2. Task Self-Esteem (2)	19.40	4.80	8.20	.001
3. Commitment (1)	14.06	3.07		
4. Commitment (2)	12.80	3.30	4.91	.001
5. Confidence (1)	18.30	3.68		
6. Confidence (2)	16.08	4.17	6.94	.001
7. Responsibility (1)	12.98	2.84		
8. Responsibility (2)	12.26	2.84	3.49	.01
9. Attribution (1)	17.76	3.48		
10. Attribution (2)	14.29	4.05	12.95	.001

A MANOVA conducted on all of the mediator variables, dichotomizing chronic self-esteem, revealed significant (p <.05 & p <.10) chronic self-esteem by time interactions for task-specific self-esteem, commitment, and confidence. This suggests that subjects responded differently to the failing policy feedback depending on their chronic level of self-esteem (see Tables 4 & 5). Although these differential psychological reactions did not produce the expected behavioral differences (policy consistency and information search), they did indicate that self-esteem level is related to psychological variables that affect the determination of policy decision strategies.

To determine more specifically how the differential psychological reactions are associated with self-esteem, the relationship between both commitment and confidence and self-esteem were re-examined. The significant correlations between both confidence and commitment and self-esteem suggest that the relationship between self-esteem and length of first policy (consistency) might be due to the mediating effects of these variables, rather than self-esteem alone.

TABLE 4

Partial Source Table for Manova (Interactions).

Source	df	SS	F Value	p. <
1. S.E. Level*Time (Task S.E.)	1	18.4Ø	3.28	.1Ø
2. S.E. Level*Time (Commitment)	1	28.32	4.56	.Ø5
3. S.E. Level*Time (Confidence)	1	16.9Ø	1.64	.1Ø
4. S.E. Level*Time (Responsibility)	1	.ØØ16	Ø.ØØ	---
5. S.E. Level*Time (Attribution)	1	1.313	Ø.18	---

TABLE 5

Means for all Intervening Variables, Dichotomizing Self-Esteem.

		Mean (time 1)		Mean (time 2)
1. Task S.E.	(H)	22.7Ø	(H)	21.35
	(L)	2Ø.12	(L)	17.54
2. Commitment	(H)	14.12	(H)	13.64
	(L)	14.ØØ	(L)	12.ØØ
3. Confidence	(H)	18.56	(H)	16.93
	(L)	18.Ø6	(L)	15.26
4. Responsibility	(H)	13.31	(H)	12.6Ø
	(L)	12.66	(L)	11.94
5. Attribution	(H)	18.22	(H)	14.91
	(L)	17.34	(L)	13.7Ø

To test this possibility, part correlations between self-esteem and length of first policy, first removing the shared variance with the mediators, were computed. These correlations were rpart =.014 with commitment removed, and rpart =.077 with confidence removed. Both part correlations differ significantly from the zero order correlations (p. <.05). These results are consistent with the proposition that confidence and commitment act as mediators, affecting the relationship between self-esteem and policy consistency.

DISCUSSION

It was expected that differences in chronic self-esteem would lead to differential psychological reactions to the negative policy feedback received in the second computer scenario. More specifically, these differential psychological reactions were expected to produce behavioral differences reflected in policy consistency and information search. Unfortunately, the results only weakly supported the behavioral effects that were expected. The maginally significant (p.<.10) correlation between chronic self-esteem and length of

first policy is consistent with the notion that
high-self-esteem individuals are more resistant to
change a failing policy than their low-self-esteem
counterparts. This effect replicates the findings of
Knight and Nadel (1986), who suggested that the
resistance to changing might be due to a maintenance of
confidence that persists in the face of negative
feedback.

Two explanations for the lack of behavioral
effects are proposed; both involve the task-specific
self-esteem manipulation. As stated previously, the
present study was, in part, a replication of the Knight
and Nadel (1986) study. However, in the Knight and
Nadel study subjects only participated in one computer
simulation involving only negative policy performance
feedback. More specifically, subjects had no
expectations of success (or failure) based on previous
experience with the policy-making task at hand. In the
present study, all subjects were given positive or
success feedback in the first simulation, which was in
contrast to the negative or failure feedback received
in the second simulation. Accepting Korman's (1970)
self-consistency notion, it was felt that the initial

success would be more salient (or in line with
self-image) to the high self-esteem subjects than to
those lower in self-esteem. Therefore, it was felt
that the initial success would carry over to the second
simulation for the high-self-esteem subjects but not
for those low in self-esteem. This logic suggested
that the behavioral differences (consistency and
information search) would be exaggerated with this
manipulation.

An alternative explanation can be postulated which
would account for the obtained results (or lack there-
of). Weiss and Knight (1980) have suggested that the
differential levels of confidence associated with
corresponding levels of self-esteem produce differences
in policy behavior, such that high self-esteem
individuals engage in less information search and
remain more committed to failing policies than those
lower in self-esteem. However, it has been shown
(Shrauger & Rosenberg, 1970) that task-specific
self-esteem can be affected by feedback (both positive
and negative). Data from numerous studies (e.g. Fitch,
1970; Stotland & Zander, 1958) indicate that the
effects of feedback manipulations are much more marked

for low than for high self-esteem individuals. If this
is the case, then it is possible that the initial
success feedback in the present study had a greater
positive effect on the confidence of the low-
self-esteem subjects relative to those high in
self-esteem. This might have been due to a ceiling
effect on confidence for the high-self-esteem subjects.
The marginally significant (p <.10) chronic self-esteem
by time interaction showed that the confidence means
(for high- and low-self-esteem) were similar at time 1
(18.56 vs. 18.06) but significantly different at time 2
(16.93 vs. 15.26). Thus, the confidence instilled in
the low self-esteem subjects after the success feedback
may have suppressed the predicted behavioral effects,
with the decrease in task-sepcific self-esteem for the
low-self-esteem group occurring too late to result in
those effects.

A second explanation for the lack of behavioral
effects also stems from the bogus success feedback
received in the first computer simulation. The almost
identical means for confidence at time 1 suggest that
the bogus feedback effectively reduced the differences
between the high- and low-self-esteem subjects.

However, at time 2 there was a significant difference in confidence (as well as task-specific self-esteem and commitment). This suggests that the behavioral differences associated with differences in self-esteem were not given enough time to manifest themselves. If the simulation duration were extended (for example from 9 feedback loops to 12 feedback loops), these behavioral differences might have become more apparent. The results concerning the mediator variables offered fairly strong support for the hypotheses, suggesting that chronic self-esteem may be a useful predictor of not only policy consistency, but the psychological prerequisites of consistency. More specifically, it appears that confidence in, and commitment to a policy decision are directly related to self-esteem. Furthermore, these relationships identify the possible cause for the policy consistency (in the face of failing feedback) attributed to high-self- esteem individuals. This coincides with Weiss and Knight's (1980) discussion, suggesting that the high-self-esteem subjects were relatively confident in their ability to deal with the problem, and felt little need for information concerning their selected policy and its

performance. This confidence and commitment apparently persisted in the face of repeated negative feedback, as indicated by the longer duration of the first policy, and the subjects' responses after the second (failing feedback) computer simulation.

It seems logical that a model of policy decision-making style could be proposed that identifies self-esteem as a predictor of policy consistency and information search. However, a complete model should identify the differential psychological reactions to policy feedback that lead to policy behavior. A basic and recurrent finding in experimental research is that people with different levels of "chronic" self-esteem respond to positive and negative self-relevant information in very different ways; high-self-esteem persons are more receptive to positive information about themselves, and low-self-esteem persons are more receptive to negative information (Wells & Marwell, 1976). Applied to the policy decision context, when high self-esteem individuals receive information that is incongruent with their self-image (negative feedback), they essentially reduce its importance or salience and hold on to their failing policy with

expectations of ultimate success. In contrast, those low in self-esteem respond to the failing feedback as a "realistic" appraisal of their decision, and engage in information search in an attempt to rectify the policy outcome.

Formally, this model identifies self-esteem as a predictor of psychological reactions to policy feedback. These reactions are a function of the congruency of the feedback with the individual's self-image (in this context self-image is directly related to self-esteem). The reactions can be operationalized as confidence in, and commitment to the policy; both maintain the same, positive relationship with self-esteem. These psychological reactance variables, or mediators, direct the manifestation of the policy behaviors. More specifically, self-esteem directs the psychological reactions (commitment and confidence) to policy feedback, which in turn produce policy behavior.

Previous research (i.e. Staw, 1976; Staw & Ross, 1978) has attempted to identify the psychological processes involved in the escalation of commitment to a failing policy. In describing the "knee deep in the

big muddy" phenomenon, Staw (1976) identified self-
justification as the underlying process. This
suggested that, when faced with failing performance
feedback, individuals seek to rationalize their
previous behavior or psychologically defend themselves
against adverse consequences. However, Staw and Ross
(1978) found reactance theory to have superior
explanatory power over self-justification in accounting
for their data in a study manipulating previous
success/failure and causal information about policy
failure. Reactance theory contends that when an
individual has been exposed to a failure situation, he
or she will become motivationally aroused to
re-establish his or her competence. Both approaches
(self-justification and reactance) assume that the
individual acts defensively to protect his or her
self-concept as a rational person, yet each approach
posits strikingly different results (Staw & Ross,
1978). The major distinction lies in the necessity of
demonstrating irrational behavior to confirm
self-justification theory, and heightened rationality
to confirm reactance theory. Behaviorally, in a
failing policy situation, self-justification would

predict commitment or consistency (especially if
responsibility is high), while reactance theory would
predict heightened information search.

The present research suggests that neither theory
alone accounts for the escalation of commitment
phenomenon. However, the appropriateness of each
theory should be determined by the moderating effects
of self-esteem. Specifically, an individual's
self-esteem directs his or her reaction to failing
feedback. High-self-esteem individuals acknowledge
failure as non-self-appropriate (i.e. are more
confident) and cognitively distort the consequences
associated with the policy decision. Low-self-esteem
individuals, on the other hand, acknowledge failure as
self-appropriate and remain sensitive to informational
cues in an attempt to recoup their losses through
additional effort and acuity. The explanatory power of
this multi-theoretical model is superior because it
identifies the appropriate prediction based on an
individual's self-esteem.

The results and model presented here have
potentially important implications for the exercise of
Campbell's (1977) experimenting approach to managerial

decision-making. The present model suggests that
high-self-esteem managers will often find themselves
"knee deep in the big muddy" (Staw, 1976, 1981),
escalating the commitment of time and resources to
failing policies. How does this lack of managerial
flexibility affect the performance of the
high-self-esteem manager? The implications of the
rigid policy approach associated with the
high-self-esteem manager and his or her ultimate
effectiveness should depend upon the nature and context
of the policy decision. For example, some tasks may
require that one best approach or solution among
several be identified (i.e. optimizing). In such a
situation, an experimenting style would most often be
preferable to a consistent style. In contrast, other
tasks involve long-term processes which, in order to
succeed, must be implemented for a certain minimum
length of time. In these situations a consistent
approach should be most effective. Finally, where any
satisfactory policy will suffice (i.e. satisficing),
the efficacy of experimenting or consistent management
would depend upon the effectiveness of the first policy
chosen (Knight & Nadel, 1986). To the extent that

policy tasks vary along dimensions such as these, the effectiveness of policy style is a function of the policy context. Therefore, knowledge of a manager's self-esteem and policy context could allow for predictions of performance based on policy consistency or experimenting.

In conclusion, the present study attempted to identify the psychological reactions to policy failure that account for the escalation of commitment phenomenon. Although the predicted behavioral effects did not achieve traditional levels of statistical significance, the effects involving psychological reactance did reveal their mediating effects on policy decision style. Future research should focus on the mediating links between self-esteem and policy behavior, to isolate and specify their effects on behavior. Furthermore, continued validation efforts are in order to assess the appropriateness of chronic measures of self-esteem as opposed to task- or dimension specific measures of self-esteem.

Two design problems were noted in the present study that may have suppressed the predicted behavioral effects. A future study is proposed that would

independently manipulate policy feedback. As in the present study, measures tapping confidence in, commitment to, and responsibility for the decisions would be utilized. However, the differential feedback for different groups would enable a comparison of the psychological reactions based on chronic self-esteem. Furthermore, the time frame of the managerial decision scenario would be lengthened to ensure ample time for the manifestation of behavioral effects. This research would serve two purposes. First, it would attempt to replicate the escalation of commitment and reduced information search associated with high-self-esteem individuals. Second, and perhaps more importantly, it would allow for specific predictions based on the model identified in the present study.

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Appendix A

Instructions: Indicate your agreement with each of the following statements by circling the appropriate number after each statement:

1. Strongly   2. Agree   3. Disagree   4. Strongly
   agree (SA)   (A)   (D)   disagree (SD)
----

1. I feel that I'm a person of worth, at
least on a equal basis with others.......SA   A   D   SD

                                    1   2   3   4

2. I feel that I have a number of good
qualities................................SA   A   D   SD

          1   2   3   4

3. All in all, I am inclined to feel
that I am a failure......................SA   A   D   SD

          1   2   3   4

4. I am able to do things as well as
most other people........................SA   A   D   SD

          1   2   3   4

5. I feel that I do not have much to be
proud of.................................SA   A   D   SD

          1   2   3   4

6. I take a positive attitude toward my-
self.....................................SA   A   D   SD

          1   2   3   4

7. On the whole, I am satisfied with my-
self.....................................SA   A   D   SD

          1   2   3   4

8. I wish I could have more respect for
myself...................................SA   A   D   SD

          1   2   3   4

9. I certainly feel useless at times....SA   A   D   SD

          1   2   3   4

10. At times I think I am no good at
all......................................SA   A   D   SD

          1   2   3   4

APPENDIX B

COMPUTER SCENARIO:

Welcome to the management computer simulation, or MCS. MCS is a computer program that simulates a number of common organizational problems, and asks you to play the part of a manager whose task it is to solve one of these problems within a given period of time.

You will be working on a simulation called 'The Employee Motivation Problem'. In just a moment you will receive more information about your managerial task. Before that, however, a few details about what you will need to do to operate the computer will be described.

Several times during the simulation you will be asked to choose between several options. The computer will present your options, and tell you to type a number corresponding to the option you want. You should then make your choice, and type in the number.

Let's try this. Type 1 if you are female, type 2 if you are male.

Good! That is all you have to do when the computer asks for information. If you have any

questions during the simulation, or if you have any problems with the computer, ask the experimenter for help.

Now to explain the simulation. As stated earlier, this version of MCS is called 'The Employee Motivation Problem'. It is based upon actual reports of similar events in large manufacturing plants, and the solution is based on what was actually done to solve those companies' problems. You will play the role of manager of a large manufacturing plant in charge of production. You are personally responsible for all production-policy decisions made in your plant.

Over the past year a serious motivation problem has decreased the production in your plant. The standard performance rate of ten units per hour, which had been consistent over a ten year period, has not recently been obtained. A complete analysis of the situation reveals that the jobs themselves have not changed in difficulty, and the ability of the average worker has not declined. This implies that the root of the production problem is low worker motivation. Your task is to increase the motivation of your

workers, thereby returning their performance to
the expected level (ten units per hour).

In order to help you plan your policy, you
engage the services of a team of industrial
psychologists.   Their report contains three
possible plans of action to increase the
performance of your workers.

Briefly, the plans are:

> (1) Piece-rate, in which the workers are
> paid for each unit completed ($1/unit as
> opposed to $7/hour).

> (2) Praise or reward techniques, in
> which workers receive praise from their
> floor managers for performing quality
> work at a fast rate.

> (3) Profit sharing, in which each worker
> is rewarded for good performance by
> receiving a share of the profit above
> and beyond their normal salary.

It should be noted that the psychologists
could not identify the exact cause of this
motivation problem, making it difficult to
determine which policy would be most effective, or
how quickly each policy might start to work.

However, they were able to rank the three plans in the order of their estimated effectiveness, based upon past experience in similar situations. The consultants ranks (from most effective to least effective) were:

> (1) Piece rate.
>
> (2) Praise technique.
>
> (3) Profit sharing.

Your task is to increase your employee's performance (up to ten units per hour) over the course of 18 weeks by implementing one of these three policies.

RULES FOR THE GAME:

For simplicity sake your success or failure will be measured in terms of dollar amounts, and time will be measured in weeks. These values are not meant to reflect the actual profit or loss the company might experience, nor the time it would take to introduce the new policies and their effectiveness. Rather, they are used only to give you a way to judge how well you are doing.

> Let's go over the rules for the simulation:

(1) You will start out with $10,000 in your operating budget. This amount will increase or decrease during the simulation, depending upon what you do and how successful you are.

(2) It will cost $1,000 to implement your first policy, or to change to a new policy later on (if you decide to do so). This amount is to cover the costs of new policies (e.g. book-keeping, supervisor training, etc.).

(3) It will cost you $100 for each week that the production rate averages below ten units per hour (10 units/hour). However, you will earn $100 for each week that your average production rate is above ten units per hour.

(4) It will cost $50 to find out how much you have in your operating budget. This can be used as an index of your success in policy selection.

(5) It will cost $50 to find out more information about the each of the three

policies. This information can give you
a better understanding of the policies
which might help in your policy
selection. For simplicity sake, you can
only request this information if your
company's production rate is below 1Ø
units/hour.

(6) At least one of these policies can
solve the motivation problem of your
employees. You should be aware,
however, that the correct policy may or
may not increase the production rate
immediately. That is, although the
correct policy will increase the
production rate, it might have to be in
effect for a number of weeks before an
improvement is seen.

(7) You will have 18 weeks to solve the
employee motivation problem. If you
hold the production rate above ten units
per hour for 4 weeks you will have
successfully solved the employee
motivation problem and the simulation
will be over.

(8) You will receive feedback on how you are doing every 2 weeks.

(9) Your goal is to solve the employee motivation problem before the 18 weeks are up by increasing your employees' production level to or above 10 units/hour, while maintaining as high a balance as possible in your operating budget.

The simulation will be broken down into two similar exercises. You will be attempting to solve two similar, but not identical, motivation problems. In each case, as described previously, you will have 18 weeks to solve the motivation problem. If you bring the production rate up to 10 units per hour for 4 consecutive weeks, you will have successfully solved the motivation problem, and that part of the exercise will end even if the 18 weeks are not completed. In the event that you do not solve the first company's problem within the 18 week time-frame, you can begin the second exercise after a short break. Between the two exercises you will be asked to

fill out a short questionnaire. Now, you can
begin working on the first problem.

Which policy do you wish to implement at this
time?

    To implement the "piece rate", press 1.

    To implement the "praise technique", press 2.

    To implement the "profit sharing", press 3.

After the first two feedback loops (4 weeks) in
the simulation the subject will receive this
feedback.

    Good! You have successfully solved the first
motivation problem, maintaining a production rate
above 10 units per hour for four weeks, with the
policy (s) you have chosen. A job very well done!

    Now, the experimenter has a couple of
questionnaires for you to fill out. Once you have
completed the two questionnaires you can finish
your task be attempting to solve the motivation
problem of a different divisional plants of the
same company.

Once the subjects complete the questionnaires they
return to the computer to begin the second task in
the simulation, when they will read:

Which policy do you wish to implement at this
time?

   To implement the "piece rate", press 1.

   To implement the "praise technique", press 2.

   To implement the "profit sharing", press 3.

At this point the subject will receive negative
feedback regardless of his or her chosen policy.
This continues for the complete simulated 18 week
cycle. The subject is asked to fill out two more
questionnaires and is then thanked for his or her
participation in the experiment, and fully
debriefed.

Additional Information Screens

   Piece-rate: As stated previously, under this
system workers are paid for each unit
satisfactorily completed ($1/unit as opposed to
$7/hour). The workers should realize that working
faster will lead to making more money. In this
system the worker will be paid for each unit of
production provided that it meets some
predetermined quality level. Psychological
studies have shown that this technique does
increase the motivation of workers if it is
possible for them to maintain fast rates of

production throughout the day without becoming too
tired.

Praise or reward techniques: This technique
developed by B. F. Skinner, was first introduced
as operant conditioning. Skinner demonstrated
that if an individual is rewarded or reinforced
for a given behavior, he or she would be more
likely to repeat that behavior. In a managerial
context, if you (the manager) give praise to a
worker for performing quality work, the worker
should find this rewarding and continue to perform
at a high quality level. Many studies have shown
that this technique is very effective for
increasing employee motivation. The end result of
this, of course, is an increased production rate.

Profit-sharing: In this technique, workers
are rewarded for good performance by receiving a
share of the profit above and beyond their normal
salary. This should make each worker more
motivated to be productive, with high levels of
quality work. With this technique each employee
works toward a common cause, attempting to
increase profits for the whole company, because it
is from these profits that the employee is given

the bonus.   This motivation technique has been very successful in a broad range of organizational applications.

Appendix C

Mark the line at the point that indicates the extent of your agreement with each of the following statements.

1) Ability - I have the ability to succeed as a manager in a company such as the one described in the scenario.

Agree /-----/-----/-----/-----/-----/------/ Disagree

2) Decision Making - I am generally good at making decisions like the ones made in this simulation.

Agree /-----/-----/-----/-----/-----/------/ Disagree

3) General Business Skills - I possess a high level of general business skills.

Agree /-----/-----/-----/-----/-----/-----/ Disagree

4) Goal Achievement - I typically achieve the goals I set out to accomplish.

Agree /-----/-----/-----/-----/----/-----/ Disagree

5) General Knowledge - I have the knowledge necessary to be a successful manager of a company such as the one in this scenario.

Agree /-----/-----/-----/-----/-----/-----/ Disagree

Appendix D

Please respond to the following statements concerning
the policies you chose in the management simulation.
Mark the line at a point that indicates your response
for each statement.

1) Commitment - I felt committed to the policy
decisions made in the scenario.

   Agree /-----/-----/-----/-----/-----/-----/ Disagree

2) Assignment of Credit - I should receive credit for
the outcomes in the simulation.

   Agree /-----/-----/-----/-----/-----/-----/ Disagree

3) Confidence - I was confident that my policy
selections would lead to success.

   Agree /-----/-----/-----/-----/-----/-----/ Disagree

4) Cause of Success - The success of the policies I
selected was due to factors unrelated to my policy
selection.

   Agree /-----/-----/-----/-----/-----/-----/ Disagree

5) Assignment of Blame - I should receive the blame for
the outcomes in the simulation.

   Agree /-----/-----/-----/-----/-----/-----/ Disagree

6) Cause of Failure - The failure of the policies I
selected was due to factors unrelated to my policy
selection.

   Agree /-----/-----/-----/-----/-----/-----/ Disagree

7) Dedication - I was very dedicated to the policies I chose in the simulation.

    Agree /-----/-----/-----/-----/-----/-----/ Disagree

8) Certainty - I was very certain that the policies I selected would be successful.

    Agree /-----/-----/-----/-----/-----/-----/ Disagree

9) Assignment of Responsibility - The positive out-comes of the simulation were due to the decisions I made.

    Agree /-----/-----/-----/-----/-----/-----/ Disagree

10) Conviction - I was not convinced that my policy selection would lead to success.

    Agree /-----/-----/-----/-----/-----/-----/ Disagree

11) Cause of Outcomes - The decisions I made had little to do with the increase or decrease of the production rate in the company.

    Agree /-----/-----/-----/-----/-----/-----/ Disagree

12) Attachment - I was not very attached to the policy decisions I made in the scenario.

    Agree /-----/-----/-----/-----/-----/-----/ Disagree

13) Assurance - I felt assured that the policies I selected would be effective.

    Agree /-----/-----/-----/-----/-----/-----/ Disagree

14) Credit - I believe that my managerial competence should be judged on the basis of the outcomes of the decisions I made (good or bad).

    Agree /-----/-----/-----/-----/-----/-----/ Disagree

AN EXTENTION OF THE SELF-ESTEEM EXPLANATION FOR
INFORMATION SEARCH AND POLICY CONSISTENCY

by

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B.A., University of South Florida, 1984

AN ABSTRACT OF A THESIS

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Abstract

A computer simulation of a managerial task was
used to study the relationship between self-esteem and
the information search and policy consistency of
subjects. Confidence in, and commitment to policy
choice were identified as variables that mediate this
relationship. Based on these findings, a model of
policy decision-making style was proposed. The
implications of these results and model for the
practice of experimenting decision making are
discussed.